



SATURDAY, APRIL 5, 1902

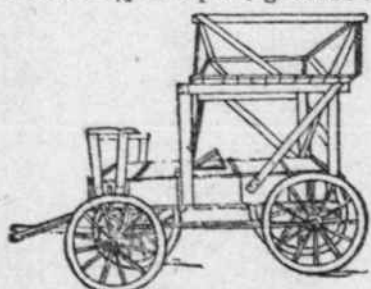
HORTICULTURE

IDEAL SPRAY WAGON.

It Has Been in Successful Operation for Several Years in a Large Apple Orchard.

Insects and fungus diseases have become so numerous their destruction or prevention is absolutely necessary if a high grade fruit of any kind is to be produced. This can be done largely by spraying, and this practice is now generally regarded as essential by the more successful fruit growers. There are many kinds of spraying machinery on the market, from large power machines down to small hand or force pumps. For the small power, the knapsack spraying machine is most satisfactory; the commercial grower needs a large wagon and other material for doing the work on an extensive scale. The numerous illustrated spraying machine catalogues can suit the wants of anyone as to machinery and equipments.

The spray wagon portrayed herewith is in use in one of the largest apple orchards of the country. The tank is of 1 1/2-inch pine, grooved and



ORCHARD SPRAYING OUTFIT.

put together with white lead to be water-tight. It is 12 feet by 19 by 39 inches and holds 300 gallons, being held together by six hard-wood bands, 2x2 1/2 inches on top and under bottom, which are bolted together by long bolts running up the outside of any tank. The manhole in top is large enough to admit a boy to clean the tank thoroughly. The so-called driver's seat is used as a support for the pump, the driver standing just in rear and doing all the pumping as well as driving the team.

The platform is 6x7 feet, supported by four standards 3 feet by 10 inches, of 1 1/2-inch hard pine. The cut shows how the platform is made. A broad-tired wagon should be used, as plowed orchard fields can be traversed more easily. Two leads of one-half-inch rubber hose, each 25 feet long and supported on bamboo fishing poles, are used. By using a Y on each lead, two nozzles on each pipe will hasten the work. An agitator may be kept at work in the tank by means of sprocket wheels and a chain attached to the spokes of the rear wheel. The forward end of the tank should set a little lower than the rear, that the pump may pump it more nearly dry.—Farm and Home.

COMBATING WEEDS.

Rank Growth of Weeds Plants Has Demonstrated the Value of Thorough Tillage.

There is no royal road to weedless farming. Following are some of the means of keeping weeds in check:

1. Practice rotation; keep ahead of the weeds. Certain weeds follow certain crops; when these weeds become serious, change the crop.
2. Change the method of tillage. If a weed persists, try deeper or shallower plowing, or a different kind of harrow or cultivator, or till at different times and seasons.
3. Harrow the land frequently when it is in fallow, or is waiting for a crop. Harrow it, if possible, after seeding, and before the plants are high enough to be broken by the implement. Potatoes, corn and other things can be harrowed after they are several inches high; and sometimes the land may be harrowed before the plants are up.
4. Practice frequent tillage with light surface working tools throughout the season. This is hard on weeds, and does the crop good.
5. Pull or hoe out stray weeds that escape the wheel tools.
6. Clean the land as soon as the crop is harvested, and if the land lies open in the fall, till it occasionally. Many persons keep their premises scrupulously clean in the early season, but let them run wild late in the fall, and thus the land seeded for the following year.

Use clean seed, particularly of crops that are sown broadcast, and which, therefore, do not admit of tillage.

8. Do not let the weeds go to seed on the manure piles, in the fence corners, and along the highway.

9. Avoid coarse and raw stable manure, particularly if it is suspected of harboring bad company. Commercial fertilizers may be used for a time on foul land.

10. Sheep and pigs sometimes can be employed to clean the weeds from foul and fallow land. Land infested with Jerusalem artichokes is readily cleaned if hogs are turned in.

11. Induce your neighbor to keep his land as clean as you keep yours. Rank pigweeds and their ilk are a compliment to a man's soil. Land that will not grow weeds will not grow crops, for crops are only those

particular kinds of weeds a man wants to raise. Weeds have taught us the lesson of good tillage. There is no indication that they intend to remit their efforts in our behalf.—L. H. Bailey, in Principles of Vegetable Gardening.

PAY THEIR OWN WAY.

Benefits Derived from Good Roads Are Far in Excess of the Cost of Construction.

One paragraph in that part of the governor's message which relates to good roads is of especial consideration because of its very general interest and application.

It is estimated, he says, that in 40 counties in Indiana (a good broad basis for computation, as that is nearly the whole number of counties in South Carolina) the average increase in the "selling price" of land, due to existing improved roads, is almost \$6.50 an acre (\$6.48 to be exact). The estimated average cost of converting common public roads into improved roads is \$1,146 a mile. The estimated average annual loss a hundred acres from poor roads—due to added expense of hauling only half loads over them, breakage and wear and tear of vehicles, loss of time, etc.—is \$76, or 76 cents an acre. "It is seen that the loss from poor roads would soon pay for the building of good roads, and after replacing the amount paid for their construction the good roads will continue to pay."

The calculation may be varied a little. A good road will steadily and effectively serve a tract of country for a mile on each side of it, and, as there are 640 acres to the square mile, it follows that one mile of good road will serve 1,280 acres on each side, within the mile limit. It follows, again, that an expenditure of one dollar an acre for each acre so to be benefited will more than pay the cost (\$1,146) of improving a bad road into so expensive a good one as the kind constructed in Indiana. It is also to be noted that 75 cents of the dollar so expended is offset by the saving of the "loss" for one year on account of bad road conditions, leaving the net cost of the improvement to the land owners only 25 cents an acre in fact. This expenditure is practically made but once, the actual cost of maintenance being relatively very small. Wherefore, the improved road will nearly pay the whole cost of its construction in one year, and thereafter will continue to return 75 cents an acre annually in the single item of saving the loss resulting from bad roads. To which gain is to be added all the conveniences of good road service, and the increase of \$6.50 in the value of every acre tributary to the road, as determined by its increased selling price. Four per cent interest for one year on the "increased value" alone of the two square miles, or one per cent a year for the four years, would pay the whole cost of the improvement.

The calculation is subject to some modifications to adapt it to this state, and to different parts of the state. It will apply closely in districts where roads are improved on the system and at the high rate of cost observed in Indiana; but may be greatly changed in the case of other districts, especially, for example, those lying south and east of Columbia.

Good roads equal to turnpikes have been constructed in Darlington, Richland and Orangeburg counties, by overlaying sand with clay at a cost ranging down to \$50 a mile, and perhaps averaging less than \$300 a mile. Darlington alone has constructed over 700 miles of such roads in the last five years, and Richland several hundred more at a cost, we believe, higher than that average. Placing the average at \$300 a mile, however, for such construction, it follows that every mile of bad road in more than half the state can be improved into a permanent thoroughly good road at a cost of \$300 on either side of it, or of 23 cents an acre—against which single expenditure would be charged nearly the whole annual saving of loss on account of bad road conditions and whatever increase in land values would result from such improvement. And even the whole 23 cents an acre would represent a tax of only two and a half cents per acre for ten years—not a very heavy burden. Extending the area to be taxed would, of course, reduce the tax rate proportionately.

It really appears that landowners, farmers and the public generally could well afford to submit to such a tax for the sake of the great and valuable public benefits to be derived from it at once and for all time to come.—Charleston (S. C.) News and Courier.

A HANDY FARM DRAG.

Convenient for Hauling All Sorts of Root Crops from the Field to the Storage House.

The ordinary low stone boat or drag is convenient for many purposes, but its use is limited because it has no great capacity. The cut shows a very handy modification of it. It is made of plank and has sides one foot high. It can be used for any purpose for which the ordinary drag is used, and in addition it is very convenient for hauling apples, potatoes, turnips or other root crops



HANDY FARM DRAG.

from the field. Manure can be hauled out in it on the snow. It is a low cart-body, but down on the ground where there is the greatest convenience in loading. All light, but bulky, articles can easily be hauled on such contrivance, as the smooth bottom slips easily over the green sward. The sides can be made higher if desired.—Orange Judd Farmer.

Can't Get Away.

Citiman—I hear your fellow-townsmen, Mr. Backlotz, is quarantined at home on account of smallpox.

Subbubs—Yes, there's smallpox in his house; one of the children sick. But it's not as bad as it might be.

Citiman—No?

Subbubs—No. The servant girl is quarantined there, too.—Philadelphia Press.

To Be Guarded.
"You say your airship is a success."
"I do," answered the inventor.
"But it never flies any distance worth mentioning."
"Of course not. It is too valuable an invention to be allowed off the earth very long at a time."—Washington Star.

A Regular Plague.
Grocer—Ten pounds of cheese? Yes, sir. What kind?
Hauskeep—Any old kind. I just want it to catch mice with.
Grocer—Gracious! Ten pounds would catch all the mice in town.
Hauskeep—Well, it looks as if we had 'em.—Philadelphia Press.

Myself Quite Sol.
"Did Dora tell you about Jack's proposal?" She says he literally hurled himself at her feet.
"Ah, but I suppose she suppressed the fact that she had, figuratively, flung herself at his head."—Ally Sloper.

His Opinion.
She—I know some couples that quarreled a good deal at first, but got along pretty well later on.
He—Oh, yes! Some people take matrimony like rheumatism—they get so they don't complain much.—Puck.

Cruel Editor.
"Is there any way in which I can ever reach the top of the ladder?" asked the discouraged poet.
"One!" responded the great editor.
"Tell me, quick!"
"Change your occupation from bard to hod-carrier."—Chicago Daily News.

Immense.
The bore, though scantily admired, is none the less a happy elf. He talks till everyone is tired. And thus he never bored himself.—Washington Star.

ART AND PATRIOTISM.



Mrs. Youngblood—See, George, dear, the nice rug with Admiral Dewey's portrait in it that I've bought for the hall.—Chicago Daily News.

Probably Had.
Mother—Do you think that young man has saved anything?
Daughter—Undoubtedly, ma! He says he has never loved before.—Puck.

Too Green for Any Use.
He—I have never loved any other woman since mother.
She—Then you need a governess, not a wife.—Town Topics.

In Ague Land.
"I am going to fight this out to the bitter end," said the man from College Point as he took his regular dose of quinine.—N. Y. Times.

An Insultation.
"They claim to be connected with some of the best families."
"By telephone?"—Philadelphia Evening Bulletin.

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